

RECLAMATION

Managing Water in the West

Draft Environmental Assessment

Storage and Return of Westlands Water District's Central Valley Project Water in Semitropic Water Storage District

EA-08-64



U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Region
South Central California Area Office
Fresno, California

August 2008

This page intentionally left blank

Table of Contents

Section 1	Purpose of and Need for Action	1
1.1	Background	1
1.2	Purpose and Need	2
1.3	Scope	2
1.4	Potential Issues	3
Section 2	Alternatives Including Proposed Action	6
2.1	Alternative A: Continue Present Actions – No Action	6
2.2	Alternative B: Proposed Action	6
Section 3	Affected Environment & Environmental Consequenses	9
3.1	Surface Water Resources	9
3.2	GroundWater Resources	14
3.3	Land Use	20
3.4	Biological Resources	25
3.5	Cultural Resources	30
3.6	Indian Trust Assets	31
3.7	Socioeconomic Resources	31
3.8	Environmental Justice	33
Section 4	Consultation and Coordination	35
4.1	Fish and Wildlife Coordination Act (16 USC § 651 et seq.)	35
4.2	Endangered Species Act (16 USC § 1521 et seq.)	35
4.3	National Historic Preservation Act (16 USC § 470 et seq.)	35
4.4	Migratory Bird Treaty Act (16 USC Sec. 703 et seq.)	36
4.5	Executive Order 11988 –Floodplain Management and Executive Order 11990- Protection of Wetlands	36
Section 5	List of Preparers and Reviewers	37
Section 6	References	38

List of Figures and Tables

Figure 1-1: Westlands Water District General Location Map	4
Figure 1-2: Semitropic Water Storage District General Location Map	5
Figure 3-1: Semitropic Water Storage District History of Ground Water Pumping Lifts	18
Figure 3-2: Poso Creek Water Co LLC Ownership & Accompanying Lands Northern portion	23
Figure 3-3: Poso Creek Water Co LLC Ownership & Accompanying Lands Southern portion	24
Table 3-1: Poso Creek Water Company, LLC Ownership & Acreage	22
Table 3-2: WWD Banking In Semitropic	12
Table 3-3 July’s Average Aqueduct Water Quality	13
Table 3-4: Groundwater Quality Beneath Semitropic	19
Table 3-5: Land Use in Semitropic Water Storage District	25
Table 3-6: Federal Status Species on Quad Lists	28-29

List of Acronyms, Abbreviations and Definition of Terms

AF	acre-foot (feet)
Af/y	acre-feet per year
APE	area of potential effect
Aqueduct	California Aqueduct a State Water Project facility stretching from the Delta to southern California
Contract Year	Begins March 1 st and ends February 28 th of the following year.
CVP	Central Valley Project
Delta	Sacramento and San Joaquin River Delta
DWR	Department of Water Resources
EA	Environmental Assessment
ESA	Endangered Species Act
FWCA	Fish and Wildlife Coordination Act
FWS	U .S. Fish and Wildlife Service
FONSI	Finding of No Significant Impact
ITAs	Indian Trust Assets
KCWA	Kern County Water Agency
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
Poso Creek	Poso Creek Water Company, LLC
Reclamation	U.S. Bureau of Reclamation
SCVWD	Santa Clara Valley Water District
Semitropic	Semitropic Water Storage District
SJV	San Joaquin Valley
SLC	San Luis Canal
SLR	San Luis Reservoir
SOD	south of the Delta
State	State of California
Subsidence	Sinking of the ground surface, because of pore collapse, over an aquifer that is slowly being drained by groundwater pumping.
SWP	State Water Project
SWRU	Stored Water Recovery Unit
WWD	Westlands Water District

SECTION 1 PURPOSE OF AND NEED FOR ACTION

1.1 BACKGROUND

On February 27, 2008, the Bureau of Reclamation (Reclamation) announced that the Central Valley Project (CVP) allocation would be 40 percent for all agricultural water users south of the Sacramento-San Joaquin Rivers Delta (Delta) (SOD) for Contract Year 2008 (a Contract Year begins March 1st and ends February 28th of the following year). The 5-year historic average for CVP SOD agricultural water service contractors is 76 percent. Additionally, delivery limitations were put in place over the summer limiting the quantity of water available in June, July and August 2008. In response to this loss of water supply, many acres of fields in Westlands Water District (WWD) were fallowed. These actions further reduced the water demand in the post summer time period (a period of normal decreased demand due to seasonal changes.) This will potentially result, counter intuitively, in WWD having more water in the remainder of 2008 Contract Year, despite the dryness of the year and the low allocation, than it needs to meet crop demands. There is also a potential that the winter will be wet which could also result in water supplies above crop demands. Proactively WWD would like to have the effects of banking water excess to their demands for future years so that the water needs in future dry years can be offset by banked supplies.

Groundwater banking is allowable under Article 3 (d) of WWD interim-term contract, Contract No. 14-06-200-495A-IR1. WWD has a history of banking water in Semitropic Water Storage District (Semitropic) and currently has a balance of 20,922 acre-feet (AF) of CVP water at Semitropic from 2005, and 2006 banking. Although environmental documents were developed for a potential banking action, no CVP water was banked in Contract Year 2007.

The 2005 banking was analyzed in the EA-05-96 entitled, *Storage of Central Valley Project Water from Westland Water District in Semitropic Water Storage District, Final Environmental Assessment, November 2005*. The return of the previously banked 2005 CVP water and the up to 50,000 AF of CVP water to be banked in 2006 were both included as part of the Proposed Action for EA-06-67 entitled *Poso Creek Water Company, LLC Execution of Temporary Water Service Contract and Banking and Exchange of Section 215 Water at Semitropic Water Storage District*. EA-06-67 analyzed Poso Creek Water Company LLC (Poso Creek,) (a consortium of landowners in WWD,) banking up to 15,000 AF of unstorable CVP flood flows in Semitropic in 2006. No unstorable flood flows analyzed in the document were delivered for banking in Semitropic in 2006. EA-06-78 entitled *Storage and Exchange of Central Valley Project Water Westlands Water District to Semitropic Water Storage District* analyzed the banking of 50,000 AF of WWD's 2006 CVP supplies in Semitropic and the return of the previously banked 10,156 AF.. Another EA dated December 2008 entitled *Madera Irrigation District Transfer, Banking and Exchange of Friant Central Valley Project Water to Westlands Water District as facilitated by North Kern Water Storage District, Semitropic Water Storage District and Kern County*

Water Agency analyzed Reclamation's approval of a water transfer, banking and exchange project in which WWD would acquire and bank up to 25,000 AF of Madera Irrigation District's 2006 allocated Friant Unit CVP contract supply in NKWSD's and Semitropic's facilities for use by WWD at a later date. This EA will analyze the potential banking of CVP water under WWD's contract in Semitropic in 2008.

The action proposed in this Environmental Assessment (EA) is WWD's banking of CVP water as Reclamation has a contractual relationship with WWD which gives authority for the banking of CVP water and the federal action will be Reclamation's approval to bank water outside of WWD's service area, however one of the actual Semitropic banking partners and owners of some of the banked water will be landowners within WWD. Poso Creek Water Company, LLC (consisting of landowners within WWD, "Poso Creek") has entered into a long-term banking agreement with Semitropic dated April 23, 2007 in which Poso Creek is a full banking partner invested at 60,000 AF of guaranteed storage capacity in the Semitropic water bank. The term of this agreement runs through December 31, 2035.

It is also anticipated that a groundwater banking agreement between WWD and Semitropic will be entered into for a period of 10 years, concluding in 2018, or until all of the banked CVP water has been returned, whichever is sooner. Together, Poso Creek and WWD propose to work together to bank the up to 50,000AF of WWD 2008 allocated CVP water supply.

The potential delivery and banking of the up to 50,000AF would only occur if there were excess conditions for WWD water. This might occur if the winter turns very wet, resulting in sufficient demand to utilize the available remaining 2008-09 CVP water, or it may even happen if WWD has more water than would be allowed for rescheduling under the Reclamation rescheduling cap. In addition, there could be a situation where individual WWD growers may want to transfer water that they have been allocated during 2008-09, but these growers know they cannot deliver prior to the end of the forecast, or typical, rescheduling period.

1.2 PURPOSE AND NEED

WWD desires to maximize the beneficial use of their 2008 CVP allocation by storing supplies that are excess to its immediate demand. The purpose for Reclamation's approval to bank water is to allow WWD to bank current supplies for future delivery to meet crop demands during the next water supply shortage. Banking would maximize the beneficial use of WWD CVP supplies and improve their dry-year water supply reliability.

1.3 SCOPE

In accordance with Section 102 (2) (c) of the National Environmental Policy Act of 1969 (NEPA), as amended, Reclamation has prepared this Environmental Assessment (EA) which analyzes the one-time banking of up to 50,000 AF of WWD 2008 allocated CVP water supply

and the recovery of banked CVP water as needed up to 20,000 AF per year, including the previously banked 20,922 AF of CVP water that was banked in 2005, and 2007.

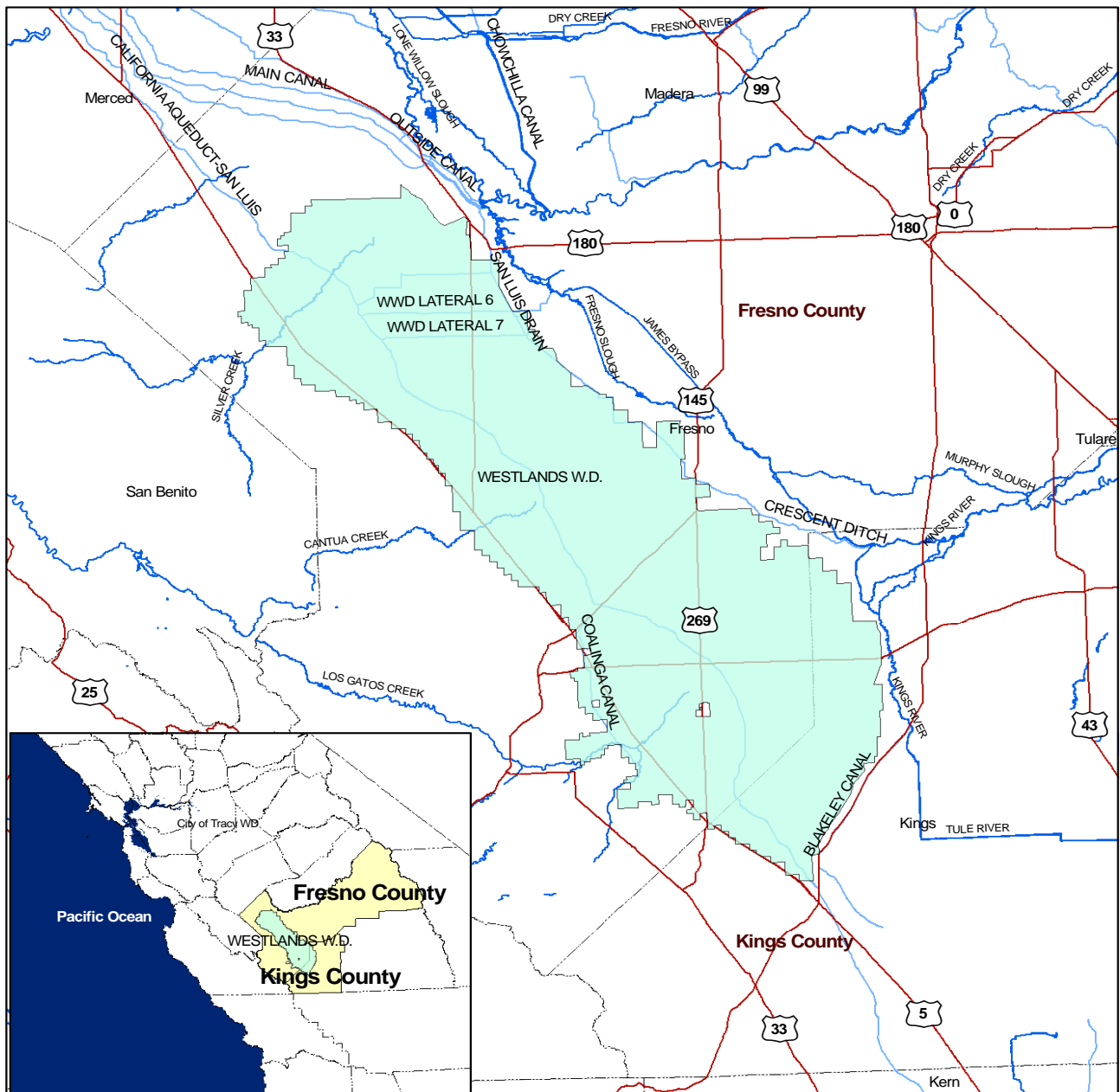
The project area to be analyzed is the area encompassed by WWD and Semitropic, as well as state and federal facilities that would be used in order to implement the Proposed Action. The banking deposit will take place in the 2008 Contract Year and the water will be returned within ten years of deposit. The EA will, therefore, evaluate the effects of the water being banked and not available to WWD in 2008 and its return when needed during water supply shortages within the next ten years.

The scope of this EA is to evaluate the effects of the project utilizing facilities within Semitropic that are already constructed and in use. It is reasonably foreseeable that the existing facilities would be sufficient to perform the needed extraction. If new facilities in Semitropic are constructed, fully permitted and the environmental impacts of the development of those facilities are analyzed due to other actions prior to extraction, the new facilities may be considered to be “existing facilities,” as specified in the description of the Proposed Action at the time of extraction. If facilities not currently in existence are needed for extraction that have not been fully permitted and analyzed, new environmental analysis will be needed prior to extraction and return of the CVP water.

1.4 POTENTIAL ISSUES

Potentially affected resources include:

- Surface Water Resources
- Groundwater Resources
- Biological Resources
- Land Use
- Cultural Resources
- Indian Trusts Assets
- Socioeconomic Resources
- Environmental Justice



Legend

- Westlands W.D. (Incorporated Boundary)
- Highways
- Rivers
- Canals

Figure 1-1
Westlands Water District
General Location Map



Date: November 17, 2005
Path Name: K:\myers\projects\Tracy WD.mxd

SECTION 2 ALTERNATIVES INCLUDING PROPOSED ACTION

This EA considers two alternatives: the No Action Alternative and the Proposed Action Alternative. The No Action Alternative reflects current conditions with regard to the Proposed Action and serves as a basis of comparison for determining potential effects to the human environment that would result from the Proposed Action's implementation.

2.1 Alternative A: Continue Present Actions – No Action

Under the No Action Alternative, Reclamation does not approve the banking and exchange of 2008 CVP water. Since this water would have been in excess of WWD's 2008 water supply needs, if the project was disapproved, the water could be rescheduled into the 2008 Contract Year within the federal share of San Luis Reservoir (SLR) with Reclamation approval if space would be available. However, water rescheduled within the federal share of SLR could be at risk of loss in accordance with Reclamation's rescheduling guidelines and policies. WWD would have less water available SOD during future dry years.

2.2 ALTERNATIVE B: PROPOSED ACTION

Reclamation proposes to approve a one-time water banking project in which WWD (Figure 1-1) would bank up to 50,000 AF of their 2008 allocated CVP contract supply in Semitropic's (Figure 1-2) facilities for use by WWD at a later date. The CVP water to be banked would be in excess of WWD's immediate demand. WWD would then recover up to 20,000 AF per year of the banked water during water supply shortages when water supply is insufficient to meet demand. Banking could occur in Contract Year 2008, March 1, 2008 through February 28, 2009. Water would be returned within 10 years of banking so water banked in 2008 must be returned by 2018.

It is anticipated that the up to 50,000 AF of CVP water would be conveyed to Semitropic beginning in September 2008 through February 28, 2009. Ten percent of the CVP water delivered to Semitropic would be left behind to compensate for aquifer losses as required by Semitropic's Memorandum of Understanding with the surrounding districts. The remaining balance of WWD water delivered would be credited to either the Poso Creek account or an interim WWD account. Semitropic would use the delivered CVP water, in-lieu of pumping groundwater, for irrigation purposes within Semitropic. WWD would use banked supplies, returned via exchange, for irrigation purposes on established agricultural lands within WWD. WWD could never withdraw more water from the bank than its current banked balance.

According to the agreement with Semitropic, WWD will be a Lower Priority Banking Partner and can bank water only when Semitropic has capacity. Poso Creek has entered into a long term agreement in which Poso Creek is a full banking partner invested at 60,000 AF of guaranteed

storage capacity in the Semitropic water bank (with 21,572 AF of CVP water on account). Poso Creek has this reserved storage space, but WWD, in accordance with their present agreement, does not yet have reserved storage space in the bank and is limited to banking only the quantity Semitropic can accommodate at that time. Hence, Poso Creek and WWD may not be able to bank the entire desired amount if Semitropic does not have capacity. WWD's groundwater banking agreement with Semitropic would remain in effect until all of their banked water has been returned within ten years, concluding in 2018.

The Proposed Action is subject to the following conditions:

- a. The water to be temporarily diverted and stored would only be used for agricultural purposes, within the boundaries of Semitropic and WWD as described;
- b. The water would only be used for beneficial purposes and in accordance with Federal Reclamation law and guidelines;
- c. The water would not be used to place untilled or new lands into production, nor to convert undeveloped land to other uses;
- d. The Proposed Action would not affect CVP or State Water Project (SWP) operations; all supplies would be previously scheduled for delivery points SOD, and do not require additional delta exports;
- e. The movement of the water would not require the construction of any new water diversion or conveyance facilities.
- f. Only existing facilities in Semitropic will be utilized for banking or extraction. No new construction will occur to effectuate the Proposed Action.

Required Conveyance

Conveyance of CVP water to Semitropic and the return via an exchange is described below.

Delivery of CVP Water to Semitropic

Up to 50,000 AF of WWD CVP water would be released from the federal share of SLR from the period between September 2008 and February 28, 2009, conveyed through the San Luis Canal (SLC) and California Aqueduct (Aqueduct) by the California Department of Water Resources (DWR), and ultimately delivered to Semitropic's turnouts at Reach 10A. Semitropic would take control of the water, subtract 10 percent for aquifer losses, credit the appropriate Poso Creek or WWD account for the balance and directly apply the water on district lands to meet agricultural demands in lieu of pumping groundwater.

Recovery and Exchange of Banked CVP Water from Semitropic

According to its long-term agreement, Poso Creek would recover up to 20,000 AF of water per year during critically dry CVP SOD agricultural water years for return to WWD. As a Lower

Priority Banking Partner, WWD would have the ability to extract and return water only when available capacity exists at Semitropic. Delivery of the return water would be at the discretion of WWD and subject to concurrence from Semitropic, Kern County Water Agency (KCWA), California Department of Water Resources (DWR) and Reclamation. WWD does not have the necessary facilities to take direct delivery of the banked water, therefore the return of the banked groundwater asset would occur via an exchange. This exchange may be accomplished under three (3) possible scenarios:

- WWD could exchange the requested amount of banked water for an equal amount of Semitropic's allocation of SWP Table-A water. Semitropic's SWP Table-A water would be released from the SLR and delivered to WWD via their turnouts at Reaches 4-7 of the joint-use SLC portion of the Aqueduct. An equal amount would be deducted from the Poso Creek and/or WWD water bank account at Semitropic.
- WWD could exchange the requested amount of banked water for an equal amount of CVP water. Semitropic's SWP Table-A water would be made available at the SLR where it could be exchanged for CVP water from another CVP contractor and delivered to WWD as they would normally receive their CVP supply. An equal amount of water would be deducted from the Poso Creek and/or WWD water bank account at Semitropic. Or, if the CVP contractor involved in the exchange is also a Semitropic Banking Partner, such as Santa Clara Valley Water District (SCVWD), then the requested amount of the banked asset could be transferred to the SCVWD account in exchange for SCVWD delivering a like amount of their CVP water supply to WWD. CVP water would be delivered to WWD as they would normally receive their CVP supply. An equal amount of water would be deducted from the Poso Creek and/or WWD water bank account and credited to SCVWD's water bank account.
- Semitropic would pump groundwater stored on behalf of WWD into the California Aqueduct. DWR would use that water to meet Table-A deliveries to SWP contractors down stream, thereby freeing up Table-A Water for delivery to WWD. Water would be delivered to WWD via their turnouts at Reaches 4-7 of the joint-use San Luis Canal portion of the Aqueduct. An equal amount would be deducted from the Poso Creek and/or WWD water bank account at Semitropic.

SECTION 3 AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

The potentially affected environment includes the area occupied by Semitropic and the lands within WWD, as well as state, federal and district owned facilities that would be involved in the conveyance and exchange of this water, and the existing conditions of environmental resources and project facilities inside the potentially affected area.

3.1 SURFACE WATER RESOURCES

3.1.1 Affected Environmental

CVP and SWP Joint-Use Facilities

The San Luis Unit, a part of the CVP and also part of the SWP, was authorized in 1960. Reclamation and the State of California (State) constructed and operate this unit jointly. Some features are "joint-use facilities" of the Federal Government and the State. The principal purpose of the Federal portion of the facilities is to furnish approximately 1.25 million AF of water as a supplemental irrigation supply to some 600,000 acres located in the western portion of Fresno, Kings, and Merced Counties.

The joint-use facilities are O'Neill Dam and Forebay, B.F. Sisk San Luis Dam, SLR, William R. Gianelli Pumping-Generating Plant, Dos Amigos Pumping Plant, Los Banos and Little Panoche Reservoirs, and SLC from O'Neill Forebay to Kettleman City, together with the necessary switchyard facilities. The Federal-only portion of the San Luis Unit includes the O'Neill Pumping Plant and Intake Canal, Coalinga Canal, Pleasant Valley Pumping Plant, and the San Luis Drain.

SLR serves as the major storage reservoir and O'Neill Forebay acts as an equalizing basin for the upper stage dual-purpose pumping-generating plant. Pumps located at the base of O'Neill Dam take water from the Delta-Mendota Canal (DMC) through an intake channel (a Federal feature) and discharge it into the O'Neill Forebay. The Aqueduct flows directly into O'Neill Forebay. The pumping-generating units lift the water from the O'Neill Forebay and discharge it into the main reservoir. When not pumping, these units generate electric power by reversing flow through the turbines. Water for irrigation is released into the SLC and flows by gravity to Dos Amigos Pumping Plant where it is lifted more than 100 feet to permit gravity flow to its terminus at Kettleman City. A State canal system continues to southern coastal areas. During irrigation months, water from the California Aqueduct flows through the O'Neill Forebay into the San Luis Canal instead of being pumped into the SLR. Two detention reservoirs, Los Banos and Little Panoche, control cross drainage along the SLC. The reservoirs also provide recreation and flood control benefits (Reclamation, 2006b).

Both the SWP and CVP are operated pursuant to a complex set of environmental and other operation requirements. Delta export operations are subject to Bay-Delta water quality standards set by the State Water Resources Control Board (SWRCB), various Biological Opinions under the Endangered Species Act (ESA), provisions of the Coordinated Operations Agreement, and various other criteria, plans and agreements.

WWD

The current WWD was formed in 1952 with the merger of Westplains Water District and the previously existing WWD. WWD encompasses more than 600,000 acres of farmland located in western Fresno and Kings Counties and serves approximately 600 family-owned farms that average 900 acres in size. WWD is a Long-Term CVP contractor with a contract for 1,150,000 AF (Reclamation, 2005)

CVP water that is delivered to WWD is pumped from the Delta. It is delivered 70 miles through the DMC to San Luis Reservoir. During the spring and summer, the water is released from SLR and delivered to WWD farmers through the SLC and the Coalinga Canal. Once it leaves the federal project canals, water is delivered to farmers through 1,034 miles of underground pipe and over 3,300 metered delivery outlets (WWD, 2006).

Semitropic Water Storage District

Semitropic is located in north-central Kern County in the SJV, about 20 miles northwest of the City of Bakersfield. The total area of Semitropic is 220,000 acres with about 159,000 acres irrigated. There are no incorporated cities within Semitropic. Semitropic was organized in 1958 for the purpose of supplying supplemental water within its service area boundaries (Semitropic, 2006a).

Surface water in Semitropic consists of local surface water supplies and water provided under its contract with the KCWA for 133,000 AF of SWP water per year. The SWP water is pumped from the Delta and conveyed through the California Aqueduct. The SWP water can be stored in SLR for subsequent conveyance in the Aqueduct to Semitropic (Semitropic, 1997).

Poso Creek

Poso Creek is a mutual water company that filed its articles of incorporation on October 4, 2005. Poso Creek was formed to manage water assets in order to sustain farmland assets (to ensure water supplies for farmland). The Company is located in WWD and consists of Limited Liability Companies (LLC), individuals, and a corporation which is 100 percent owned by a single family trust (See Table 3-1). (Figure 3-4 & Figure 3-5).

Poso Creek is not a water district and is not a SWP or CVP contractor, but rather receives and delivers allocated SWP and CVP supplies to its members' farming operations as WWD water

users. Within WWD, Poso Creek's members manage and farm approximately 6,700 acres, consisting of approximately 5,700 acres of permanent plantings (almonds and pistachios) and about 1,000 acres of row crops.

WWD has worked with Poso Creek to develop and enter into a long term agreement in which Poso Creek is a full banking partner invested at 60,000 AF of guaranteed storage capacity in the Semitropic water bank. Poso Creek, as facilitated by cooperation with WWD, has banked a net balance of CVP water stored within Semitropic of 20,922AF. This CVP water was banked during 2005-2007 under three (3) separate actions.

A remaining net of 5,506AF of CVP water stored under a 2005 banking project (a net of 10,156 AF banked in the fall of 2005, with: 1) 4,000AF of this supply returned to WWD in the fall of 2007 under a WWD request letter dated April 20, 2007 and a Reclamation approval letter dated June 11, 2007; and 2) 650AF of this supply returned to WWD in July and August of 2008 under a WWD request letter dated May 20, 2008 and a USBR approval letter expected by September of 2008). This previous banking action was analyzed in the EA titled, *Storage and exchange of Central Valley Project Water Westland Water District in Semitropic Water Storage District, Final Environmental Assessment, November 2005 (EA-05-96)*, and the return of this water was analyzed in the EA titled, *Storage of Central Valley Project Water from Westland Water District in Semitropic Water Storage District, September 2006 (EA-06-78)*.

Poso Creek, as facilitated by cooperation with WWD, also banked a net of 7,980AF of CVP water in the winter of 2007, which was analyzed in the EA titled, *Storage of Central Valley Project Water from Westland Water District in Semitropic Water Storage District, September 2006 (EA-06-78)*.

Finally, Poso Creek, as facilitated by cooperation with WWD, also banked a net of 7,436AF of CVP water in the winter of 2007, which was analyzed in the EA titled, *Madera Irrigation District Transfer, Banking and Exchange of Friant Central Valley Project water to Westlands Water District as Facilitated by North Kern Water Storage District and Kern County Water Agency, January 2007(EA07-01)*. Thus, Poso Creek, as facilitated by cooperation with WWD, has a total net balance of CVP water stored within Semitropic of 20,922AF (5,506AF + 7,980AF + 7,436AF).

History of WWD Banking Activities in Semitropic to Date

The table below shows the WWD banking activities within Semitropic.

Table 3-2 WWD Banking In Semitropic (in AF)

Month	2005	2006	2007	2008
January	-	-	-	-
February	-	-	15,416	-
March	-	-	-	-
April	-	-	-	-
May	-	-	-	-
June	-	-	-	-
July	-	-	-	(350)
August	-	-	-	(300)
September	-	-	-	-
October	-	-	(4,000)	-
November	9,645	-	-	-
December	510	-	-	-
Total	10,156	0	11,416	(650)

Current Bank Balance = 20,922

Note: 1) These amounts are after the 10 percent losses are deducted and reflect creditable deposits that may be withdrawn.

2) The Contract Year runs from March 1 until February 28 so even though there were deposits in February 2007, it is considered banked in Contract Year 2006.

3) Parentheses connote a withdrawal from the bank while no parentheses connote a deposit.

Water Quality

Water quality in the California Aqueduct is affected by the tidal influences of the Delta and has increase salinity compared to the SJV eastside rivers. Recently Westside farmers have been allowed to pump groundwater into the Aqueduct which has increased salinity. This will occur only during the summer and will not impact the quality of the water banked by WWD in Semitropic. Semitropic's own SWP contract is for water from the Aqueduct so the quality of the water banked will be the same as that normally utilized by Semitropic. WWD's banked water will be utilized to irrigated crops leaving the native groundwater as the banked supply so groundwater quality should not be affected.

Table 3-3 July's Average Aqueduct Water Quality

Water Quality Parameter	Harvey O Banks Pumping Plant (at the Delta)	Check 29 South of WWD
Electrical Conductivity (Micromhos per centimeter) (measure of salinity)	336	423
Bromide (mg/L)	0.12	0.18
Turbidity (NTU)	11	2
Dissolved Organic Carbon (mg/L)	3.7	Data not available

(DWR website 2008 SWP Water Quality Summary 7/9 to 8/7/08)

3.1.2 Environmental Consequences

No Action

Under the No Action Alternative, surface water supplies would be the same as the existing conditions described above.

Proposed Action

WWD would bank up to 50,000 AF of their 2008 CVP water supply. WWD would not overburden other water resources to make this water available for banking.

The Proposed Action improves WWD's water supply reliability and operational efficiency, especially during critically dry hydrologic years. The proposed delivery of CVP water to Semitropic and the subsequent banking and return via exchange to WWD would occur through existing SWP, CVP, Semitropic, and WWD facilities. No new facilities would be needed as a result of the Proposed Action. The Proposed Action would not interfere with the normal operations of the SWP or CVP facilities, nor would it impede any SWP or CVP obligations to deliver water to other contractors or to local fish and wildlife habitat. Furthermore, the proposed project would not alter the quantity or timing of diversions from the Delta. Neither WWD nor any CVP or SWP water user would be changing historic land and water management practices as a result of the Proposed Action. Project operations and facilities would not vary considerably under either alternative.

The 1994 Semitropic Groundwater Banking Project Environmental Impact Report (EIR) evaluated potential impacts of the Banking Program operations on the timing of diversions from the Delta. The studies conducted under the EIR process determined that the timing of these diversions are regulated through operational restrictions under a number of agreements and biological opinions designed to protect sensitive fish species and on this basis, Semitropic

operations would not considerably impact the timing of diversions from the Delta (Semitropic, 1994). The Proposed Action would be regulated by the same operational restrictions.

Based on the preceding information, the Proposed Action would result in no major changes to SWP and CVP facilities operations. It would provide up to 20,000 AF of additional surface water over the next ten years. This additional surface water is less than 2 percent of WWD's annual water demand and stretched over a ten year period would offset shortage to a very minor degree. Overall the Proposed Action would provide a minimal positive affect to surface water resources.

Cumulative Effects

The Proposed Action will allow WWD to bank available CVP water for future delivery to meet crop demands during the next dry water year(s). This project will reduce WWD dependence upon groundwater resources during dry hydrologic years when the banked water is returned. There are no other impacts to canals, facilities, or operations for delivering surface water supplies, since the Proposed Action would utilize existing facilities.

3.2 GROUNDWATER RESOURCES

3.2.1 Affected Environment

WWD and Poso Creek

WWD is located above the alluvial fan deposits between the eastward dipping marine deposits of the Coast Range and the alluvium filled San Joaquin Valley. The groundwater basin underlying WWD is comprised generally of two water-bearing zones: (1) an upper zone above a nearly impervious Corcoran Clay layer containing the Coastal and Sierran aquifers and (2) a lower zone below the Corcoran Clay containing the sub-Corcoran aquifer. These water-bearing zones are recharged by subsurface inflow primarily from the west and northeast, percolation of groundwater, and imported and local surface water. The Corcoran Clay separates the upper and lower water-bearing zones in the majority of WWD. The Corcoran Clay is not continuous in the western portion of WWD.

Groundwater pumping started in this portion of the SJ V in the early 1900's. Prior to delivery of CVP water, the annual groundwater pumpage in WWD ranged from 800,000 to 1,000,000 AF per year (af/y) during the period of 1950-1968. The majority of this pumping was from the aquifer below the Corcoran Clay, causing the sub-Corcoran piezometric ground water surface to reach the lowest record average elevation of more than 150 feet below mean sea level by 1968. The large quantity of groundwater pumped prior to delivery of CVP water caused a significant amount of land subsidence in some areas. Subsidence permanently reduces the aquifer capacity because of the compaction of the water-bearing sediments. WWD has implemented a groundwater management program to reduce the potential for future extreme subsidence. After

implementation of the CVP operations in WWD, groundwater pumping declined to about 200,000 af/y, or less, in the 1970's. The reduction in groundwater pumping stabilized groundwater depths and in most portions of WWD, groundwater levels significantly recovered.

During the early 1990's, groundwater pumping increased tremendously because of the reduced CVP water supplies caused by an extended drought, and regulatory actions related to the Central Valley Project Improvement Act (CVPIA), ESA, and Bay/Delta water quality actions. Groundwater pumping quantities are estimated to have reached 600,000 af/y during 1991 and 1992 when WWD received only 25 percent of its contractual entitlement of CVP water. The increase in pumping caused a decline in groundwater levels, but has since recovered. Normal or near normal CVP water supplies from 1995 – 1999 have reduced the estimated annual quantity of groundwater pumped to approximately 60,000 af/y, resulting in an increase in water surface elevations. However, since 2000, WWD's water supply has been considerably reduced resulting in groundwater pumping to increase to over 200,000 af/y.

WWD estimates the current safe yield of groundwater to be approximately 175,000-200,000 af/y. However, this quantity of groundwater is generally only pumped when other supplemental supplies are not available. This is due to the poorer quality of the groundwater compared to surface water (Reclamation, 2004).

Semitropic Groundwater Banking and Exchange Program

During the 1960's, Semitropic developed plans for main conveyance and distribution system facilities to extend from the Aqueduct to farm delivery locations. Prior to these deliveries, the irrigated agriculture within Semitropic was totally dependent on pumping the underlying groundwater.

In 1995, Semitropic began implementation of the Semitropic Groundwater Banking and Exchange Program. The Program is a long-term water storage program designed to recharge groundwater and reduce overdraft, increase operational reliability and flexibility, and optimize the distribution and use of available water resources between Semitropic and potential banking partners. Under the program, the banking partner would deliver a portion of its unused SWP, CVP or other surface water supplies to Semitropic during periods when such water is available. Semitropic may use this water in lieu of pumping groundwater for irrigation or directly recharge the underlying groundwater basin. Upon request, Semitropic would return the banking partner's previously stored water by exchange. The banking partner's stored water may be pumped from Semitropic's groundwater basin through pumpback facilities into the Aqueduct and provided to DWR in exchange for SWP water delivered to the partners from the Delta; or Semitropic would retain the stored water for its own use in exchange for an equivalent portion of its SWP water supply. Under the first method (delivery of recovered banked water to the Aqueduct), the water is delivered to the SWP water supply pool from which deliveries would be made to the banking partners (Semitropic, 1997).

Semitropic's Banking Program capacity is 1,000,000 AF. Total program annual withdrawal amounts are restricted by the size of the pump-back facility, contemporaneous scheduled SWP deliveries to the Groundwater Bank, and the proportion of the total program capacity that has been contracted to other banking partners. The annual withdrawal capacity includes up to 133,000 AF of SWP water that could be exchanged within the California Aqueduct, and/or an additional 90,000 af/y of groundwater extraction to the California Aqueduct. Thus, the return capacity of the original program is a minimum of 90,000 af/y, and a maximum of 223,000 af/y (Semitropic, 1997).

Semitropic has been in progress of constructing the second phase of its groundwater banking program. This new unit, the Stored Water Recovery Unit (SWRU), would increase storage by 650,000 AF to a maximum of 1.65 million AF and increase recovery capacity by 200,000 AF per year for a total guaranteed or pumpback capacity of 290,000 af/y. This means that the Semitropic Groundwater Storage Bank, including its entitlement exchange capability of up to 133,000 af/y, will be able to deliver up to 423,000 af/y of dry year yield to the Aqueduct. (Semitropic, 2006b).

Concern has developed over the environmental effects of this new construction however and construction has been halted until the issues are resolved.

Semitropic Groundwater Management

Semitropic resides within the Kern County groundwater sub-basin of the SJV groundwater basin. The Kern County groundwater sub-basin includes the Kern River and the Poso Creek drainage areas, as well as the drainage areas of west-side streams in Kern County. The Kern County sub-basin has been identified by DWR as being critically over drafted. By definition, "a basin is subject to critical conditions of overdraft when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts" (DWR, 2003).

As discussed above, one such effect of long-term groundwater overdraft is land subsidence, which has already caused some damage to canals, utilities, pipelines, and roads in the region. Another effect of long-term groundwater overdraft is groundwater quality degradation. Groundwater overdraft in a basin can produce a gradient that induces movement of water from adjacent areas. If the adjacent areas contain poor quality water, degradation can occur in the basin.

Semitropic established a groundwater monitoring program in 1994 so that any adverse groundwater impacts of the Semitropic water banking project could be mitigated. The monitoring program is overseen by a committee made up of Semitropic, adjoining districts (including Buena Vista Water Storage District, Rosedale-Rio Bravo Water Storage District, Shafter-Wasco Irrigation District, North Kern Water Storage District, and Southern San Joaquin

Municipal Utility District), and banking participants. KCWA and DWR are interested parties and participate in committee activities and water scheduling. Monitoring has included water level measurement in monitoring wells and groundwater quality (including salinity and nitrate) evaluations (Semitropic, 1994).

In addition, activities of Semitropic and the adjoining activities that affect groundwater conditions are compiled by the committee. Included are diversions of surface water into each district, crop surveys and estimates of crop consumptive use, and, where available, groundwater pumping data. A report on the committee's activity and groundwater conditions is published every two years.

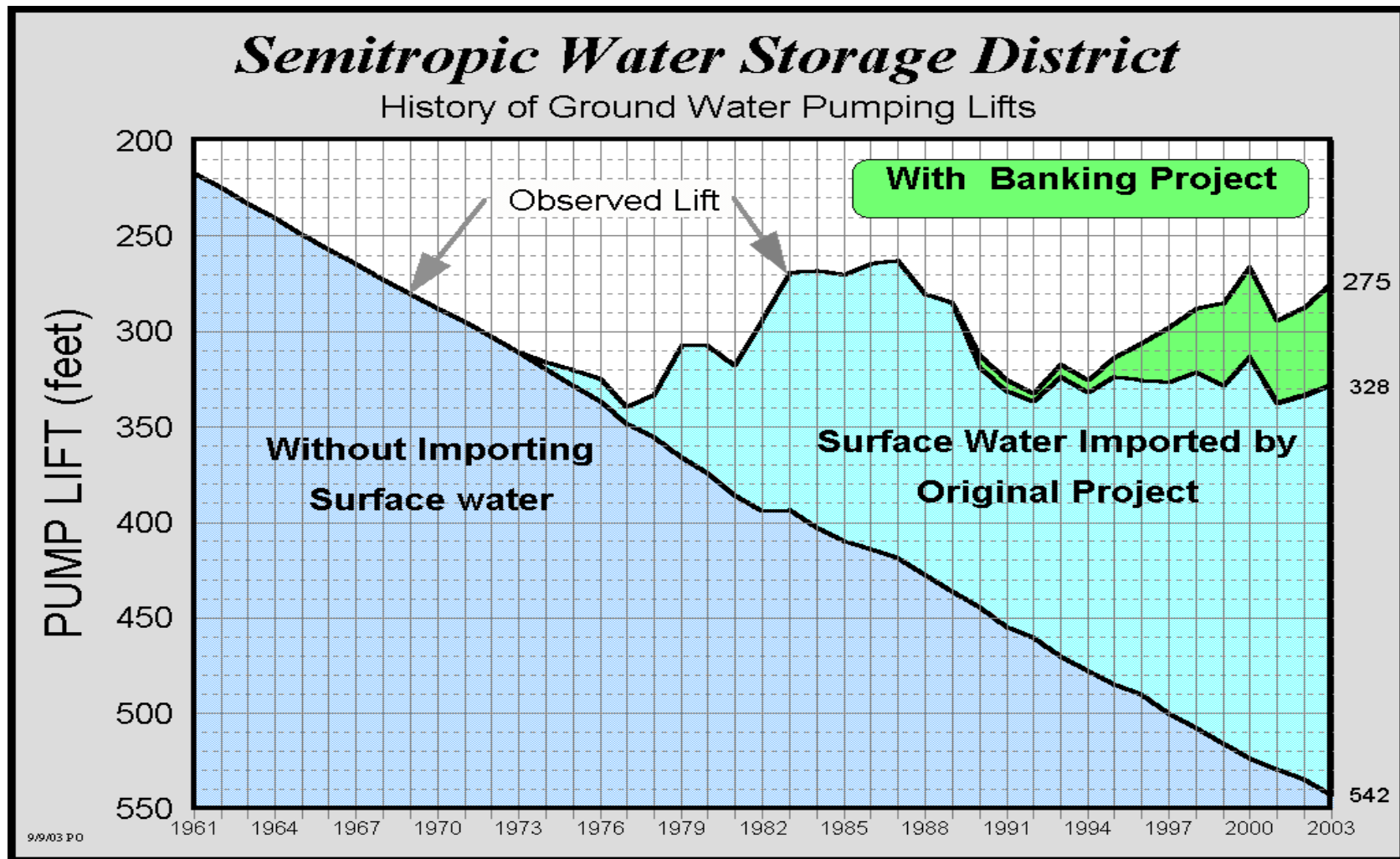


Figure 3-1

Water Quality

The groundwater quality in the Kern County basin has been influence by the influx of SWP water supplies and banked water however the water quality remains high and suitable for all beneficial uses.

Table 3-4 Groundwater Quality Beneath Semitropic

Constituent	Concentration
Total Dissolved Solids (mg/L)	398
Arsenic (ug/L)	8
Chrome VI (ug/L)	6
Bromide (ug/L)	209
Nitrate (mg/L as NO3)	5
Sulfate (mg/L)	84
Total Organic Carbon (mg/L)	2
Uranium (pCi/L)	2

1) Based on samples collected during a five week 20,000 AF pump back into the Aqueduct at 300 cfs between November 5th and December 12th 2001.

3.2.2 Environmental Consequences

No Action

Under the No Action Alternative there may be impacts to groundwater resources as compared to the baseline. The overdraft in the SJVis groundwater basin will continue to result in declining groundwater levels as described in the groundwater section above.

Proposed Action

Groundwater banking reduces overdraft by utilizing surface supplies in lieu of groundwater pumping. The Proposed Action would provide water to WWD in a dry or critically dry year, and therefore reduce the need to pump groundwater in order to supplement potential shortages. WWD would not be pumping groundwater to make the CVP water available for banking. The CVP supply WWD desires to bank is in excess of their immediate needs. The excess water resulted from a 100% CVP allocation for the 2006 water year, extremely wet conditions and high runoff. The project would not adversely affect the groundwater under WWD. In fact, with the availability of 20,000 AF of additional irrigation water in dry years, the Proposed Action would likely decrease reliance on groundwater pumping by landowners in WWD during dry years.

The delivery of up to 50,000 AF of CVP water to Semitropic for in-lieu recharge will help protect the local aquifer from overdraft in the interim period and the majority of the 10% loss would be permanently left within the groundwater basin.

Based on the preceding information, the Proposed Action would have minimal impacts to groundwater resources.

Cumulative Effects

Eventually, WWD anticipates entering into a long-term ongoing banking program with Semitropic in which they would be guaranteed 60,000 AF of storage capacity. This future action differs from the Proposed Action in that the Proposed Action is a one time banking project and concludes when the water has been returned. Where as the future agreement makes WWD a full banking partner in which the banking program would be ongoing, banking in wet years and withdrawing in dry year, and does not end once the banked water is withdrawn. The Proposed Action when added to the previous banking activities and reasonably foreseeable banking activities of WWD does not contribute to cumulative effects of groundwater resources

3.3 LAND USE

3.3.1 Affected Environment

WWD

Agricultural production is the predominant land use in WWD. More than 60 different crops are grown commercially in WWD with the potential for more. The primary crops grown include cotton, tomatoes, garlic, almonds, melons, lettuce, grains, and safflower. However, an improving long-term water supply outlook has resulted in a significant shift in cropping patterns in WWD, with more land being planted in permanent crops. The acreage trend is toward vegetable and permanent crops such as fruit and nut trees, as cotton and grain acreage have decreased. Since 1993, the number of acres planted in trees and vines has more than doubled in Westlands while the number of acres planted in cotton has declined.

With 2008 being a dry year resulting in a low CVP allocation, WWD planned to fallow 100,000 acres (some completely fallowed and some not double cropped where only winter crops are planned). In addition drainage issues have caused 100,000 acres to be retired in the last few years. Once Reclamation announced the limitation of water deliveries during the summer months another 30,000 acres were abandoned in the fields for a total of 230,000 acres fallowed in 2008. This can be compared with the 96,400 acres that were fallowed in 2007. (The number is less than the 100,000 acres retired because some of those acres are leased for dry land farming.)

POSO CREEK

Poso Creek landowners primarily grow pistachios, although some acreage is in tomatoes.

TABLE 3-1: POSO CREEK WATER COMPANY, LLC OWNERSHIP AND ACREAGE

Owner	Total Acres
Manning Ave. Pistachios, LLC	298.91
Kamm Pistachios, LLC	718.13
104 Pistachios, LLC	792.42
Henry Farms (Todd & Linda Henry)	544.30
Gary & Karen Robinson	320.00
Kristine Robinson	361.05
Derrick Pistachios, LLC	600.00
Three Rocks Pistachios, LLC	350.00
Panoche Pistachios, LLC	967.80
The Johnson Family Trust	627.02
Erick Johnson & Diane Sharp Trustees (Johnson Family Trust)	229.00
Erick H. Johnson (Johnson Family Trust)	158.00
Dennis & Cheryl Woods Trustees	80.00
104 Partners, LLC	656.61
<i>Total</i>	<i>6,703.24</i>

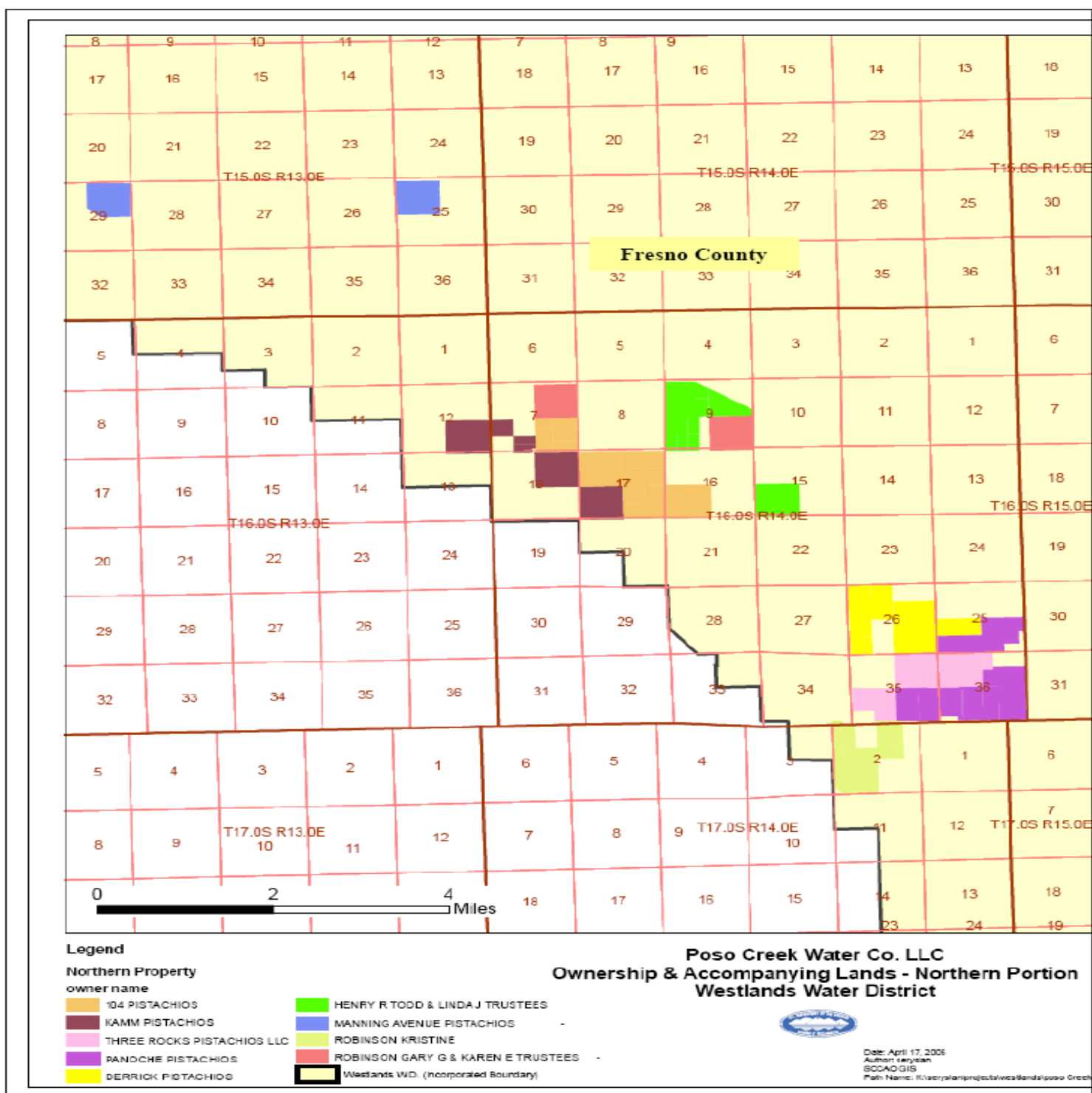


Figure 3-2

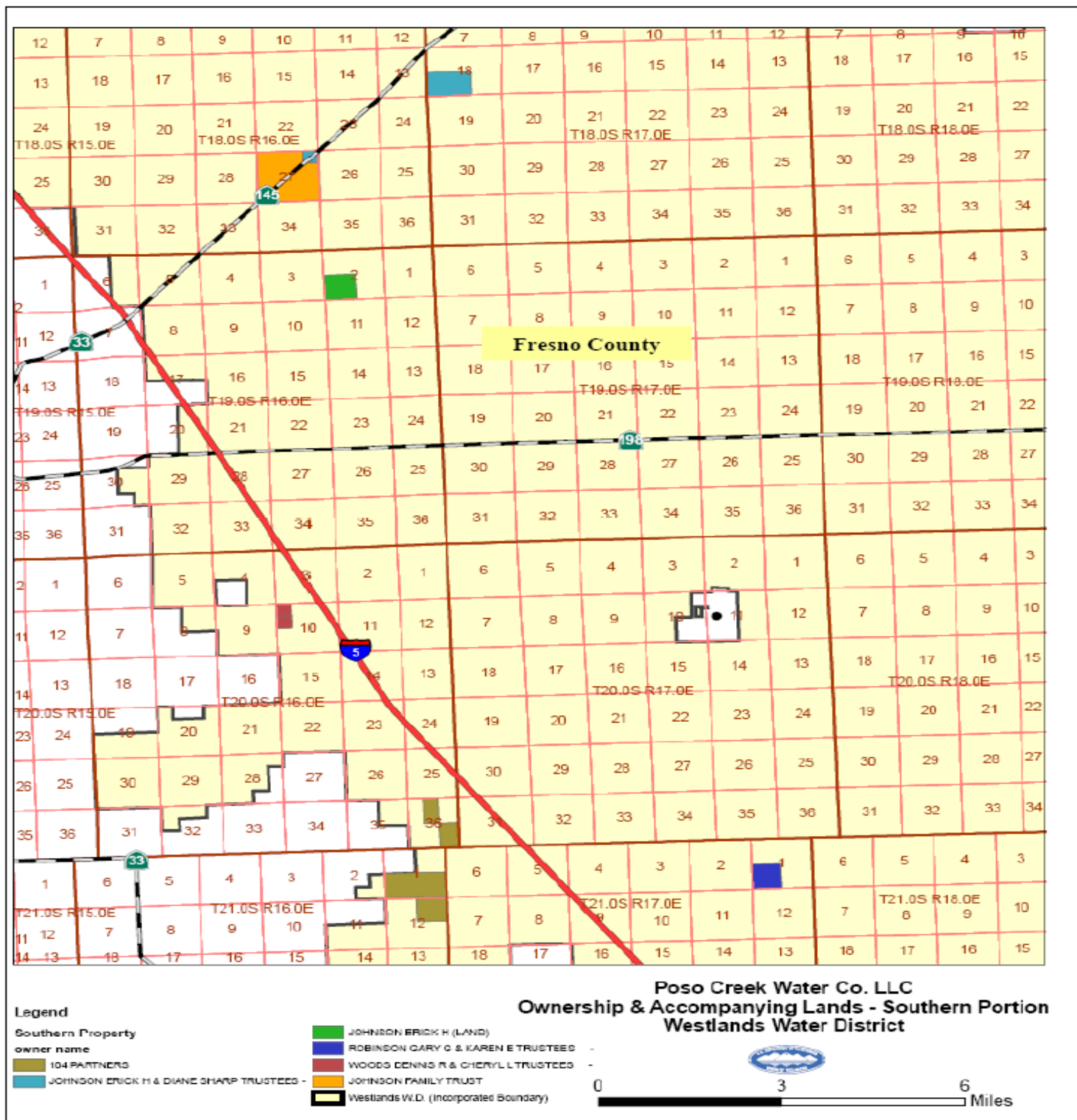


Figure 3-3

Kern County

Kern County is the fourth most productive agricultural county in the nation. As a semiarid region, it must rely on adequate imported water supply for its farming, and demand is expected to increase in the future for Kern County's agricultural products. Semitropic is situated within Kern County. Land use in Semitropic is primarily agricultural, with alfalfa, cotton, and vegetable comprising the largest acreage under cultivation (Table 3-1).

Semitropic provides water to customers for agricultural use only. Throughout Semitropic, water is used for the following crops (based on a 2003 crop survey). (Semitropic, 2006a).

TABLE 3-5: LAND USE IN SEMITROPIC WATER STORAGE DISTRICT

Crop	Acres	Percentage
Alfalfa	27,088.42	16.95%
Cotton	25,323.80	15.85%
Nut crops	23,533.49	14.73%
Fallowed (temporary crops)	13,152.84	8.23%
Vegetables	25,185.79	15.76%
Grain/pasture	23,582.11	14.76%
Duck ponds	8,838.15	5.53%
Grapes	5,248.17	3.28%
Waste & miscellaneous land	6,563.01	4.11%
Fruits	680.35	0.43%
Nursery	577.48	0.36%
Total Irrigated Acres	159,773.61	100%
Undeveloped Native Vegetation	60,785.86	
Total District Acres	220,559.47	

3.3.2 Environmental Consequences

No Action

Land use conditions under the No Action Alternative would remain the same as the existing land use conditions described above, therefore no additional effects to land use are associated with this alternative.

Proposed Action

Neither WWD nor Semitropic are changing historic land or water management practices as a result of the Proposed Action. All water would move through existing facilities and be placed on established agricultural lands. None of the banked water would be used to place any untilled or new lands into production, or to convert undeveloped land to other uses. WWD would not promote additional land to be farmed. Any water that is delivered to WWD as a result of this project would be used on established agricultural lands to help offset the annual water supply shortage faced by WWD and hence, reduce the annual amount of groundwater pumped or reduce annual transfers from other sources. Therefore, no impacts to land use are expected from the Proposed Action.

Cumulative Effects

Since the Proposed Action would not result in any land use changes, it would not contribute incrementally to cumulative effects on land use.

3.4 BIOLOGICAL RESOURCES

3.4.1 Affected Environment

The biological resources in WWD are similar to biological resources found in other agricultural areas of the SJV. The project area is dominated by agricultural habitat that includes field crops, orchards, and pasture. The vegetation is primarily crops and frequently includes weedy non-native annual and biennial plants.

The irrigated lands in Semitropic are similar to those described above. The non-irrigated lands in Semitropic include valley mesquite, saltbush habitat, and riparian-freshwater habitat.

Occurrences of the latter are not common or extensive because of the lack of freshwater to sustain the habitat throughout the year. The low lying shrubs and scattered mesquite host a variety of birds, mammals, and insects including dove, quail, coyotes, rabbits and lizards. The limited marshlands support some waterfowl and waterfowl nesting and wintering habitat.

The conveyance facilities to be used in the Proposed Action are not managed for fisheries. Some non-native warm-water fish may inhabit the canals. No sensitive or special-status fish species occur in the conveyance facilities that would be used in the project.

The following list was obtained on August 14, 2008, by accessing the U.S. Fish and Wildlife (FWS) Database: http://www.fws.gov/pacific/sacramento/es/spp_lists/auto_list.cfm. The list is for the following 7 ½ minute U.S. Geological Survey quadrangles, which are overlapped by Semitropic: Lone Tree Well, Hacienda Ranch, Allensworth, Delano West, Lost Hills NW, Lost Hills NE, Wasco NW, Pond, Lost Hills, Semitropic, Wasco SW, Wasco, Lokern, Buttonwillow and Rio Bravo, as well as these quads, which are overlapped by WWD: Stratford, Westhaven, Kettleman City, Huron, Gujuarral Hills, Avenal, La Cima, Coalinga, Burrel, Vanguard, Lemoore, Five Points, Westside, Harris Ranch, Calflax, Tres Pecos Farms, Lillis Ranch, Domengine Ranch, San Joaquin, Helm, Tranquillity, Coit Ranch, Levis, Cantua Creek, Chaney Ranch, Chounet Ranch, Tumey Hills, Monocline Ridge, Firebaugh, Hammonds Ranch and Broadview Farms. See Table 3-7 for the species and critical habitat on the combined list for these quadrangles.

TABLE 3-7: FEDERAL STATUS SPECIES ON QUAD LISTS

<u>Common Name</u>	<u>Species Name</u>	<u>Fed Status</u>	<u>ESA</u>	<u>Summary basis for ESA determination</u>
Bald eagle	<i>Haliaeetus leucocephalus</i>	T ¹	NE ²	No individuals or habitat in area of effect
Blunt-nosed leopard lizard	<i>Gambelia sila</i>	E ³	NE	Records are either old (ca 1975) or on Center for Natural Lands Management or DFG managed lands
Buena Vista Lake shrew	<i>Sorex ornatus relictus</i>	E	NE	Only known location in action area is on Kern NWR
California condor	<i>Gymnogyps californianus</i>	E	NE	No individuals or habitat in area of effect
California jewelflower	<i>Caulanthus californicus</i>	E	NE	Does not inhabit croplands or lands fallowed and untilled for less than three years
California red-legged frog	<i>Rana aurora draytonii</i>	T	NE	No individuals or habitat in area of effect
California tiger salamander, Central DPS	<i>Ambystoma californiense</i>	T	NE	No vernal pools or seasonal wetlands in croplands or lands fallowed and untilled for less than three years
Central Valley steelhead	<i>Oncorhynchus mykiss</i>	T	NE	No effect on natural stream systems
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	E	NE	No vernal pools in area of affect
Delta smelt	<i>Hypomesus transpacificus</i>	T	NE	No downstream effects from action
Fresno kangaroo rat	<i>Dipodomys nitratooides exilis</i>	E	NE	No individuals or habitat in area of affect; species not trapped since 1992 but may still occur on Alkali Sink Ecological Reserve
Fresno kangaroo rat-critical habitat		CH (F) ⁴	NE	Only occurs at Alkali Sink Ecological Reserve, outside of area of effect
Giant garter snake	<i>Thamnophis gigas</i>	T	NE	No individuals or habitat in area of effect
Giant kangaroo rat	<i>Dipodomys ingens</i>	E	NE	No individuals known; survey data along Poso Creek showed kangaroo rat tracks, but not to species and affected only by construction, which will not result from the project
Kern mallow	<i>Eremalche kernensis</i>	E	NE	Only one record, which is more than 10 yrs old; no facilities or construction will result from the project; no new lands will be brought into production
Palmate-bracted birds'-beak	<i>Cordylanthus palmatus</i>	E	NE	Does not inhabit croplands or lands fallowed and untilled for less than three

¹ T: Listed as Threatened under the ESA.² NE: No Effect to the species or critical habitat determination under ESA.³ E: Listed as Endangered under the ESA.⁴ CH (F): Critical habitat designated as final under the ESA.

				years
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	E	NE	No construction of new facilities; no conversion of lands from existing uses
San Joaquin woolly-threads	<i>Monolopia congdonii</i>	E	NE	No records within 10 years; species not expected to occur close enough to croplands to colonize bare soil
Tipton kangaroo rat	<i>Dipodomys nitratooides nitratooides</i>	E	NE	Occurrences on Buttonwillow Ecological Reserve and lands managed by the Center for Natural Lands Management; other occurrences are from 1985; survey data showed kangaroo rat tracks along Poso Creek, but not to species & affected only by construction, which will not result from the project
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	T	NE	No elderberry shrubs in area of effect
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	T	NE	No vernal pools in area of effect
Vernal pool fairy shrimp - critical habitat		CH	NE	None in area of effect
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	E	NE	No vernal pools in area of effect
Western snowy Plover	<i>Charadrius alexandrinus nivosus</i>	T	NE	No construction of new facilities; no conversion of lands from existing uses

Not appearing on the quad lists, but also known to occur in area of affect is the California least tern. The Central Valley spring-run chinook salmon, Sacramento River winter-run chinook salmon and North American green sturgeon (southern DPS), critical habitat for the Central Valley steelhead, critical habitat for the Central Valley spring-run chinook salmon, critical habitat for the Sacramento River winter-run chinook salmon and critical habitat for the delta smelt also require consideration, due to the use of CVP and SWP facilities to pump water from the Delta.

Special status species known to occur within WWD are the California least tern, Tipton kangaroo rat, the San Joaquin kit fox, the San Joaquin pocket mouse, and the blunt-nosed leopard lizard. Special status species known to occur in areas of undeveloped native vegetation in Semitropic are the San Joaquin antelope ground squirrel, the Tipton kangaroo rat, the San Joaquin kit fox, and the blunt-nosed leopard lizard.

3.4.2 Environmental Consequences

No Action

Under the No Action Alternative there are no impacts to wildlife and special status species, as no new facilities would be constructed and existing deliveries would continue to operate as has

historically occurred. The conditions of special status wildlife species and habitats under the No Action Alternative would be the same as they would be under existing conditions described in the Affected Environment; therefore, no additional effects to special status species or critical habitats are associated with this alternative.

Proposed Action

The Proposed Action would be consistent with the current operations at WWD and Semitropic and would not negatively impact CVP and SWP deliveries. The Proposed Action would not prevent water deliveries to refuges or preclude the Environmental Water Account from negotiating actions to obtain water from willing sellers in accordance with the CVPIA. Critical habitat has been designated by the FWS for vernal pool species; one unit of critical habitat for vernal pool fairy shrimp is within a short distance (~5 miles) of the boundaries of Semitropic, and another is within about 25 miles, but neither is within the area that would be affected by the Proposed Action.

The water delivered to lands in WWD will be used to irrigate crops already in cultivation. No new facilities will be required to bring the water to these locations, and no native or untilled lands will be brought into production by the Proposed Action. Orchards provide some habitat for the San Joaquin kit fox, but the habitat value is relatively small, and would not be affected by the Proposed Action. Within WWD boundaries, there are a number of records shown by the California Natural Diversity Database (CNDDB) for species listed under the ESA. The Proposed Action would not change the availability or quality of any habitat for the California least tern, because no waterways or nesting areas will be created, destroyed or modified in any way.

There will be no effect on the listed salmonids and their critical habitat, on the delta smelt and its critical habitat or on the green sturgeon. The Proposed Action only addresses use and storage of water that is made available SOD after it has been diverted from natural waterways and placed in man-made distribution systems (canals/reservoirs and groundwater banks). This Proposed Action has no effect on natural stream systems that comprise or contain salmonid critical habitat, nor on any stream systems that comprise the habitat of the green sturgeon. The Proposed Action will not affect the primary constituent elements of delta smelt critical habitat.

As a result of the above factors, Reclamation has made a determination of no effect for this banking activity under the ESA for all species expected to be within the action area.

Cumulative Effects

As the Proposed Action has no impacts on special-status plant, fish or wildlife resources, it does not contribute to cumulative impacts on those resources.

3.5 CULTURAL RESOURCES

3.5.1 Affected Environment

Cultural Resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The SJV is rich in historical and pre-historic cultural resources. Cultural resources in this area are generally prehistoric in nature and include remnants of native human populations that existed before European settlement. Prior to the 18th Century, many Native American tribes inhabited the Central Valley. It is possible that many cultural resources lie undiscovered across the valley. However, a systematic inventory for cultural resources on the farmers' lands in WWD or Semitropic has not been conducted, and prehistoric and historic resources may be present on these lands. The lands have historically been cultivated for agricultural purposes and have been routinely tilled and irrigated. Any archaeological resources that may be present have likely been impacted by these agricultural practices.

The CVP is being evaluated for the National Register of Historic Places (NRHP). Facilities include the Friant Dam, Friant-Kern Canal, Tracy Pumping Plant, and DMC and San Luis Unit facilities.

3.5.2 Environmental Consequences

No Action

Under the No Action Alternative, there would not be an undertaking as defined by Section 301 of the National Historic Preservation Act. No new facilities would be constructed and existing recharge and extraction operations would continue to operate as has historically occurred within existing facilities. The condition of cultural resources would be the same as under the existing conditions. No impacts to cultural resources are associated with this No Action Alternative.

Proposed Action

The Proposed Action consists of the storage and return of CVP water through existing facilities. The CVP water would be conveyed in existing facilities and canals and would be directed to established agricultural land; no untilled land will be cultivated with this water. No ground disturbing activities, including excavation or construction are required to convey the water. This administrative action is not the type of activity that has the potential to affect historic properties pursuant to the regulations at 36 CFR Part 800.3(a)(1). As a result of this no potential to affect historic properties determination, no cultural resources will be impacted as a result of the proposed action.

Cumulative Effects

As the Proposed Action has no impacts on cultural resources, it does not contribute to cumulative impacts on those resources.

3.6 INDIAN TRUST ASSETS

3.6.1 Affected Environment

Indian trust assets (ITAs) are legal interests in assets that are held in trust by the U.S. Government for federally recognized Indian tribes or individual Indians. The trust relationship usually stems from a treaty, executive order, or act of Congress. The Secretary of the Interior is the trustee for the United States on behalf of federally recognized Indian tribes. “Assets” are anything owned that holds monetary value. “Legal interests” means there is a property interest for which there is a legal remedy, such a compensation or injunction, if there is improper interference. Assets can be real property, physical assets, or intangible property rights, such as a lease, or right to use something. ITAs cannot be sold, leased or otherwise alienated without United States’ approval. ITAs may include lands, minerals, and natural resources, as well as hunting, fishing, and water rights. Indian reservations, rancherias, and public domain allotments are examples of lands that are often considered trust assets. In some cases, ITA’s may be located off trust land.

Reclamation shares the Indian trust responsibility with all other agencies of the Executive Branch to protect and maintain ITAs reserved by Indian tribes, or individual Indians by treaty, statute, or Executive Order.

3.6.2 Environmental Consequences

No Action

Under the No Action Alternative there are no impacts to ITAs, as there are no ITAs in the action area.

Proposed Action

There are no tribes possessing legal property interests held in trust by the United States in the water involved with this action, nor is there such a property interest in the lands designated to receive the water proposed in this action, therefore ITAs are not affected by this action.

Cumulative Effects

There are no ITAs in the action area, therefore, the Proposed Action when added with the previous banking activities and reasonably foreseeable banking activities of WWD does not contribute to cumulative affects to ITAs

3.7 SOCIOECONOMIC RESOURCES

3.7.1 Affected Environments

The socioeconomic setting is dependant upon population, employment, housing, and revenues earned by the primary private employers. As stated earlier, WWD and Semitropic are comprised

primarily of irrigated agricultural lands. There are many communities across the area where farm workers reside. There are many small businesses that support agriculture such as feed and fertilizer sales, machinery sales and service, pesticide applicators, transport, packaging, and marketing.

WWD lies within an area of western Fresno and Kings Counties. Agriculture is vitally important in both counties, with agriculture being Fresno County's major industry. Fresno County consistently ranks among the top agricultural counties in the country's agricultural production and employment. Hispanic communities in Fresno and Kings Counties, though relatively small and similar in size, have undergone varying rates of population growth over the years, which can be heavily influenced by the agricultural economy (Reclamation, 2004). The shift in cropping patterns to more permanent crops has had some economic impacts to WWD, as well. Permanent crops such as trees and vines require year-round maintenance and tend to provide stable employment at higher wages. Spring and fall vegetable crops, although seasonal, are labor-intensive and generate strong on-farm revenues that support regional job creation and economic growth (WWD, 2006).

Kern County's economy is based on the diverse assets of agriculture, oil, aerospace and transportation and warehousing services. Despite this seeming economic diversification, the overall performance of the county has been mixed in recent years when compared to the State and other counties, although noticeable progress has been made overall. This is due in part to the cyclical and uncertain nature of oil and aerospace which are often affected by factors beyond Kern County. Further, the agricultural sector consists mostly of low paying and often seasonal employment which limits the positive multipliers within the economy.

Lower business costs, the availability of land, and relatively lower costs of living also add to Kern's attractiveness and competitive advantage. On the other hand, lackluster new business growth, lower educational attainment and skills gaps, out migration of young people, a high incidence of low-to-moderate income residents, and air quality issues-especially within the San Joaquin Valley-are noted disadvantages in Kern County (Kern, 2005).

The 2008 decreased water supply and reduced summer water availability increased crop fallowing and resulted in planted acreage abandonment. Decreased agricultural activity affects the availability of on farm jobs and the profitability of farm related industry as well as farming itself.

3.7.2 Environmental Consequences

No Action

The socioeconomic conditions under the No Action Alternative would be the same as they would be under existing conditions described in the Affected Environment; therefore, no additional effects are associated with this alternative.

Proposed Action

The return delivery of CVP water to WWD would provide water to the area in dry years and would help sustain existing croplands in WWD. Businesses rely on these crops to maintain jobs. The Proposed Action would not induce population growth within WWD, nor would seasonal labor requirements change. Agriculturally dependent businesses would not be affected by the Proposed Action. No adverse effects to public health and safety would occur. The Proposed Action would not have highly controversial or uncertain environmental effects or involve unique or unknown environmental risks. The Proposed Action would continue to support the economic vitality in the region. Semitropic and WWD are responsible for managing water for the benefit of agriculture, since they exist to support growers within their respective districts. Maximizing the use of operational exchanges is beneficial to local economic conditions and agricultural employment.

Cumulative Effects

Exchanges of this nature provide options for managing the finite water supplies. WWD's past, present and foreseeable future water banking actions would not have highly controversial or uncertain environmental effects or involve unique or unknown environmental risks, nor would they have cumulatively significant environmental effects.

3.8 ENVIRONMENTAL JUSTICE

3.8.1 Affected Environment

As mandated by Executive Order 12898 (E.O. 12898), published February 11, 1994, entitled, "Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations", this EA addresses potential environmental justice concerns. The population of some small communities typically increases during late summer harvest. The market for seasonal workers on local farms draws thousands of migrant workers, commonly of Hispanic origin from Mexico and Central America.

3.8.2 Environmental Consequences

No Action

The No Action Alternative would have no impact on environmental justice. Semitropic and WWD would continue to engage opportunities to maximize management of their water supply

within the facilities available to them either in district or utilizing other district's facilities as approved by Reclamation and DWR. Conditions would be the same as the existing conditions; therefore, no additional impacts are associated with this alternative.

Proposed Action

The Proposed Action would allow CVP water to be conveyed through existing facilities to an established water banking facility and then returned to WWD in dry years. The Proposed Action would not cause dislocation, changes in employment, or increase flood, drought, or disease. The Proposed Action would not disproportionately impact economically disadvantaged or minority populations. No impacts relevant to Environmental Justice are anticipated because the project does not include any construction or development of project facilities, or any change in operations that would affect the general public.

Cumulative Effects

The Proposed Action would not have any measurable impact on minority or disadvantaged populations within Semitropic or WWD in conjunction with other activities.

SECTION 4 CONSULTATION AND COORDINATION

4.1 FISH AND WILDLIFE COORDINATION ACT (16 USC § 651 ET SEQ.)

The Fish and Wildlife Coordination Act (FWCA) requires that Reclamation consult with fish and wildlife agencies (federal and state) on all water development projects that could affect biological resources. The implementation of the CVPIA has been jointly analyzed by Reclamation and the FWS and is being jointly implemented. The Proposed Action does not involve construction projects. Therefore the FWCA does not apply.

4.2 ENDANGERED SPECIES ACT (16 USC § 1521 ET SEQ.)

Section 7 of the ESA requires federal agencies, in consultation with the Secretary of the Interior, to ensure that their actions do not jeopardize the continued existence of federally endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species.

Reclamation has determined the Proposed Action would have no effect on threatened and endangered species and no further consultation is required under Section 7 of the ESA. This determination is based on the fact that the diversion of this water would not change pumping conditions in the Delta to protect fish. Reclamation and DWR would continue to make decisions whether to pump and convey water based on external conditions independent of the Proposed Action. Water is pumped from the Delta in accordance with the OCAP and other regulatory requirements to protect fish and water quality resources. Similar amounts of water are pumped and conveyed by Reclamation and DWR based on demands and capacity.

The Proposed Action would support existing land uses and conditions. No native lands would be converted or cultivated with CVP water. Therefore, the Proposed Action would have no effect on federally proposed or listed threatened or endangered species or their proposed or designated critical habitat.

4.3 NATIONAL HISTORIC PRESERVATION ACT (16 USC § 470 ET SEQ.)

The National Historic Preservation Act (NHPA) of 1966, as amended, is the primary legislation that outlines the Federal government's responsibility to cultural resources. Cultural resources include both archaeological and built environment resources. Section 106 of the NHPA requires that Federal agencies take into consideration the effects of their undertakings on historic properties. Historic properties are cultural resources that are listed on or eligible for inclusion in the NRHP. The 36 CFR Part 800 regulations implement Section 106 of the NHPA and outline the procedures necessary for compliance with the NHPA.

Compliance with the Section 106 process follows a series of steps that are designed to identify if cultural resources are present and to what level they will be affected by the proposed Federal undertaking. The Federal agency must first determine if the proposed action is the type of action that has the potential to affect historic properties. Once that has been determined and an action, or undertaking, has been identified, the Federal agency must identify interested parties, determine the area of potential effect (APE), conduct cultural resource inventories, determine if historic properties are present within the APE, and assess effects on any identified historic properties. The Federal agency consults with the State Historic Preservation Officer (SHPO) on agency determinations and findings and seeks their concurrence with the Federal agency findings.

For the Proposed Action, there will be no modification to existing facilities, no ground disturbance, and no new construction. There will be no new land use or new irrigation to agricultural as a result of the Proposed Action. Therefore, the proposed administrative action has no potential to affect historic properties pursuant to 36 CFR 800.3(a)(1).

4.4 MIGRATORY BIRD TREATY ACT (16 USC SEC. 703 ET SEQ.)

The Migratory Bird Treaty Act (MBTA) implements various treaties and conventions between the U.S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the MBTA provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the MBTA, the Secretary of the Interior (Secretary) may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg would be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns.

The Proposed Action would have no effect on birds protected by the MBTA.

4.5 EXECUTIVE ORDER 11988 – FLOODPLAIN MANAGEMENT AND EXECUTIVE ORDER 11990-PROTECTION OF WETLANDS

Executive Order 11988 requires Federal agencies to prepare floodplain assessments for actions located within or affecting flood plains, and similarly, Executive Order 11990 places similar requirements for actions in wetlands. The project would not affect either concern.

SECTION 5 LIST OF PREPARERS AND REVIEWERS

Judi Tapia, Supervising Natural Resource Specialist, SCCAO

Michael Inthavong, Natural Resource Specialist, SCCAO

Georgiana Gregory, Repayment Specialist, MP

SECTION 6 REFERENCES

DWR, 2003. *California's Groundwater: Bulletin 118 Update 2003*. October 2003. Prepared by California Department of Water Resources, Sacramento, CA.

DWR, 2005. *California Water Plan Update 2005. Volume 3 – Regional Reports; Chapter 8: Tulare Lake Hydrologic Region*. September 2005. Prepared by California Department of Water Resources, Sacramento, CA.

Fresno, 2004. Economic Development Corporation *serving* Fresno County 2004. Available: <http://www.fresnoedc.com/cities.htm>. Accessed: 2006.

FWS, 2006. U.S. Fish and Wildlife Service, Sacramento, CA. Available: http://www.fws.gov/pacific/sacramento/es/spp_list.htm. Accessed: 2006.

Kern, 2005. *County of Kern Community and Economic Development Department Economic Development Strategy Final Report*. April, 2005. Prepared by ICF Consulting, San Francisco, CA. Prepared for County of Kern, Community and Economic Development Department, Bakersfield, CA.

Reclamation, 2001. *Biological Opinion on U.S. Bureau of Reclamation Long Term Contract Renewal of Friant Division and CVC Contractors*. January, 2001. Prepared by United States Bureau of Reclamation and U.S. Fish and Wildlife Service, Sacramento, CA.

Reclamation, 2004. *Long-Term Renewal of the Contract Among the United States and the Pajaro Valley Water Management Agency, Westlands Water District Distribution District No. 1 and Santa Clara Valley Water District Providing for Central Valley Project Water Service, Draft Environmental Assessment*; December 2004. Prepared by United States Bureau of Reclamation, Sacramento, CA.

Reclamation, 2005. *Storage of Central Valley Project Water from Westland Water District in Semitropic Water Storage District, Final Environmental Assessment*. November 2005. Prepared by United States Bureau of Reclamation, Sacramento, CA.

Reclamation, 2006a. *Poso Creek Water Company, LLC, Execution of Temporary Water Service Contract and Banking and Exchange of Section 215 Water at Semitropic Water Storage District, Final Environmental Assessment*, May 2006. Prepared by United States Bureau of Reclamation, Fresno, CA.

Reclamation, 2006b. United States Bureau of Reclamation. Available:
<http://www.usbr.gov/dataweb/html/casanluis.html>. Accessed: 2006.

Semitropic, 1994. Semitropic Water Storage District and Metropolitan Water District of Southern California. *Semitropic Groundwater Banking Project, Final Environmental Impact Report, Findings and Mitigation Monitoring Plan*; July, 1994.

Semitropic, 1997. Semitropic Water Storage District. *Semitropic Water Banking and Exchange Program (Semitropic Groundwater Banking Program), Initial Study*; April 18, 1997.

Semitropic, 2006a. Semitropic Water Storage District, Bakersfield, CA. Available:
<http://www.semitropic.com/AboutUs.htm>. Accessed: 2006.

Semitropic, 2006b. Semitropic Water Storage District, Bakersfield, CA. Available:
<http://www.semitropic.com/FuturePlans.htm>. Accessed: 2006.

WWD, 2006. Westlands Water District, Fresno, CA. Available:
<http://www.westlandswater.org/wwd/>. Accessed: 2006.